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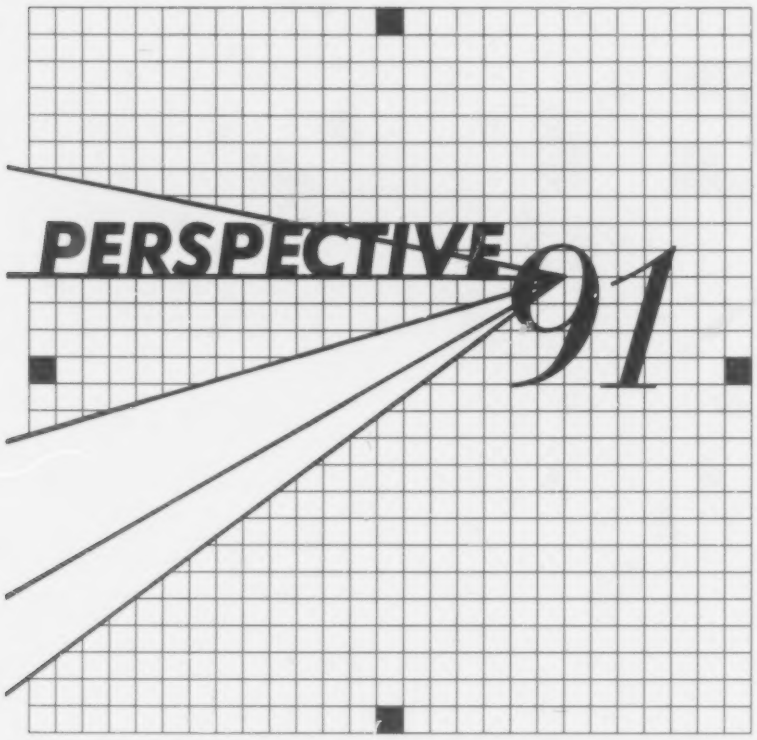

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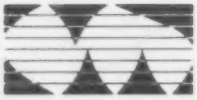

International Business Forms Industries, Inc.

PERSPECTIVE 91

Perspective, the annual market research publication from International Business Forms Industries, Inc. (IBFI), addresses the most important issues facing forms manufacturers and suppliers to the industry, and identifies and monitors industry trends. Based on IBFI's database of information extending back over 20 years, *Perspective* is prepared at the direction of the IBFI Economic and Market Research Committee. *Perspective* provides a comprehensive five-year forecast and reviews the previous year's performance.

The authors are responsible for all of the estimates and opinions in this volume. All charts and graphs are the work of the authors. Every effort has been made to ensure accuracy, but, of course, it cannot be guaranteed.

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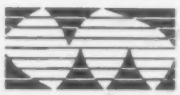

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PERSPECTIVE 91

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PREFACE

Many of the analyses and conclusions presented in *Perspective 91* are based upon IBFI's ongoing surveys–monthly, quarterly and annual–of its forms manufacturing members in the U.S. and Canada.

These surveys track industry sales, tonnage converted, distribution channels, capacity utilization, prices paid for forms bond, paper inventory levels, gross and net profit margins, and other items relating to business conditions in the North American forms market. By combining this primary research data with information available from other sources, such as other trade associations, the Bureau of Labor Statistics, and the U.S. Census Bureau, IBFI is able to provide an "insider's" 'perspective' on the forms industry–one that is available only from IBFI.

Perspective 91 can be used to verify or test marketing plans for individual forms companies; as an orientation tool for new employees who need to acquire a basic understanding of the dynamics of the forms industry; and by suppliers and others interested in the changes that are constantly reshaping the face of the forms industry in North America.

EXECUTIVE SUMMARY

The 1990-91 economic recession has served as a clear reminder that the primary factor driving forms industry sales and profitability is the overall growth of the U.S. economy. IBFI's forms industry surveys show that the industry's traditional, core group of product lines—stock and custom continuous, unit sets, salesbooks and pegboard systems—have been particularly hard hit by the economic recession. Sales of pre-printed cutsheets and pressure-sensitive labels, on the other hand, have continued to record positive growth despite the poor performance of the U.S. economy in 1990 and 1991.

The operating capacity utilization rate for the forms industry averaged 61 percent during the first two quarters of 1991; this indicator of industry demand peaked at 65 percent during the third quarter of 1990, which coincided with the onset of the 1990-91 economic recession.

Paper prices fell with unprecedented speed during the first eight months of 1991: the producer price index for 15 lb. forms bond dropped by nearly 25 percent during this time span, before a substantial price increase in this grade took effect at the end of the third quarter.

IBFI estimates that the U.S. forms industry suffered negative real growth in both 1990 and 1991, with shipments of traditional product lines decreasing by 0.9 percent in 1990 and 1.3 percent in 1991. Because of price deflation, nominal sales for the industry declined by 3-4 percent in 1991, based on IBFI estimates.

Assuming the U.S. economy begins to expand again during the third or fourth quarter of 1991, IBFI expects the industry to record positive sales growth in 1992; however, the combination of an anemic economic recovery and forms industry overcapacity will dampen the industry's profitability outlook and encourage further consolidation and restructuring among forms producers.

Results of an IBFI member survey conducted in 1991 suggest that the forms industry is evolving from one whose orientation has been manufacturing and the steady expansion of production capacity to one whose orientation is technology- and marketing-oriented, with production capacity customized to meet the specific demands of a particular market niche. Most of the respondents to this survey characterized today's business forms company as one that manufactures and sells traditional business forms products and services; however, it is also clear that today's forms manufacturers believe that non-traditional products are becoming increasingly important—e.g., pre-printed cutsheets, labels, forms management programs and promotional printing.

Respondents to this survey also feel that companies which provide value-added non-forms products, such as electronic forms design software suppliers or firms involved in the development or integration of EDI standards and systems, are significant competitors to today's forms manufacturers.

FORMS INDUSTRY PERFORMANCE REVIEW AND FORECAST

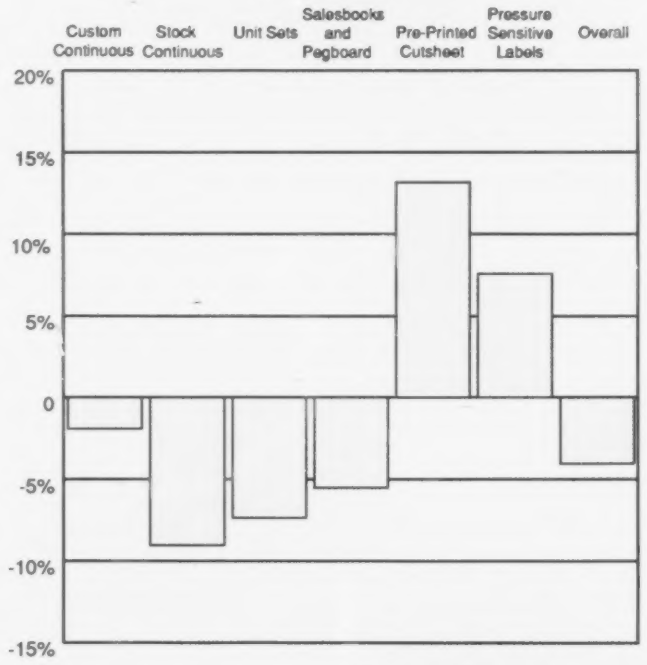
The 1990-91 economic recession has served as a clear reminder that the growth (or lack thereof) of the overall U.S. economy remains the primary short-term factor driving forms industry profitability. The record peacetime expansion of the U.S. economy during the 1980's may have obscured this relationship for many forms companies—until the economic slowdown that began in 1990 brought this relationship into sharp focus again.

Product Line Growth Trends

Figures 1 and **2** show forms industry retail sales by product line for 1990 and for the first six months of 1991. These figures show that the traditional forms product lines (i.e., stock and custom continuous, unit sets and salesbooks) were particularly hard hit by the economic recession, while cutsheets and pressure-sensitive labels continued to record positive growth.

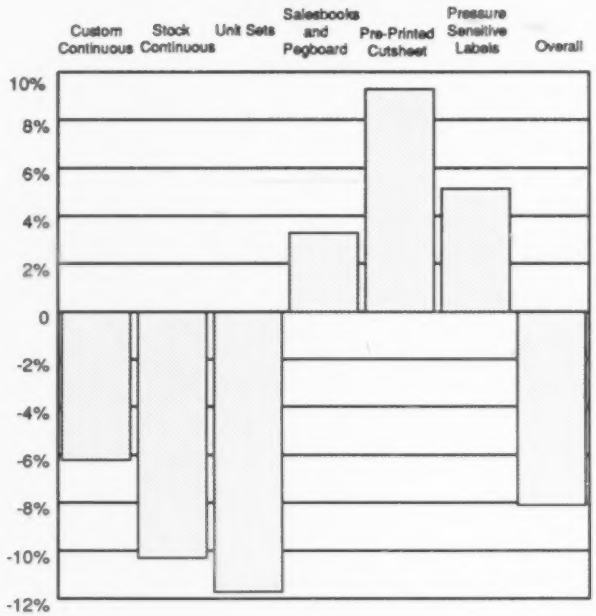
Figure 3 provides an estimate of U.S. forms market sales by major product lines, including pre-printed cutsheets and pressure-sensitive labels. **Figures 4** and **5** show monthly change in U.S. business forms sales from January 1990 to June 1991.

Figure 1
1990 Forms Industry Retail Sales Growth by Product Line



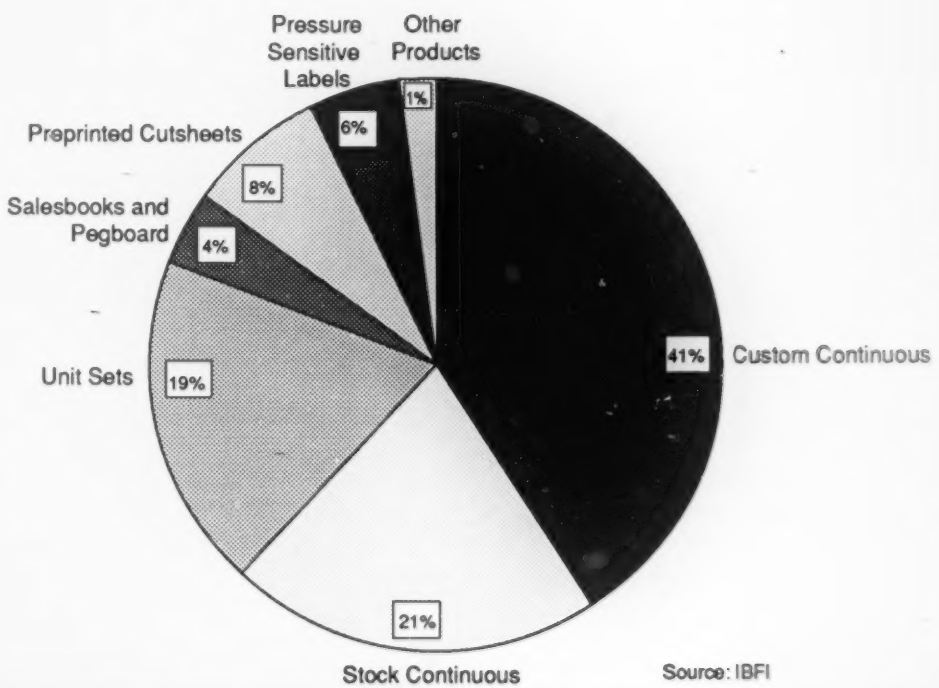
Source: IBFI Monthly
Confidential Sales Index Report

Figure 2
1991 Forms Industry Retail Sales Growth
by Product Line
Through June 1991



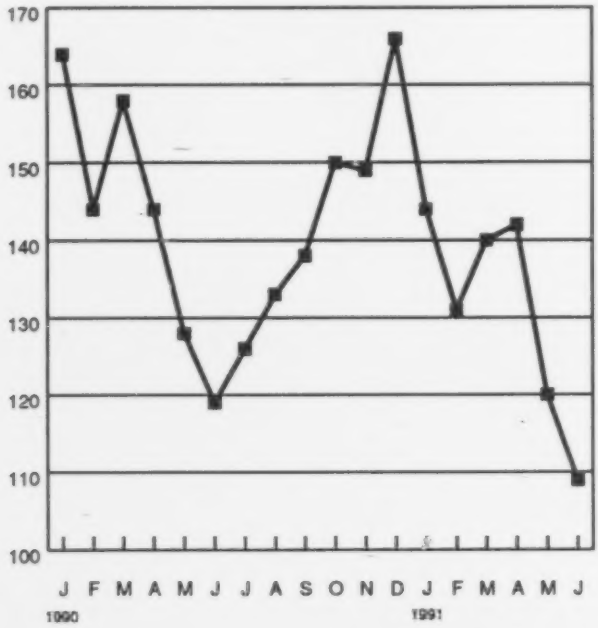
Source: IBFI Monthly
Confidential Sales Index Report

Figure 3
1990 Estimated Retail Sales By U.S. Forms Manufacturers
By Product



Source: IBFI

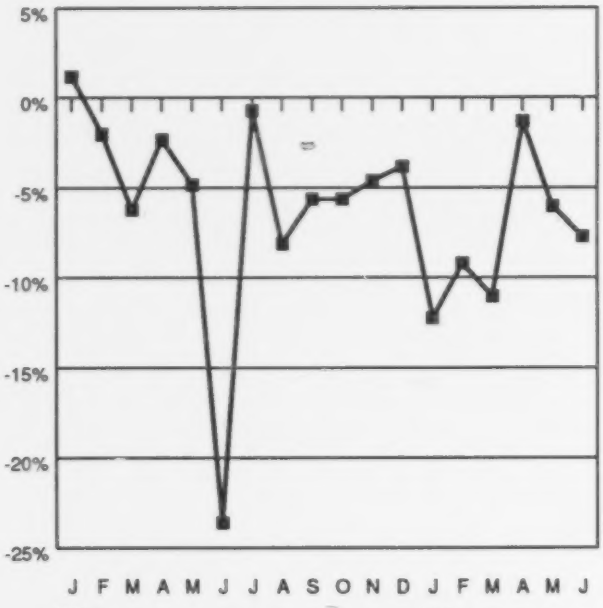
Figure 4
IBFI Monthly Business Forms Sales Index*



*1982 = 100

Source: IBFI Monthly
Confidential Sales Index Report

Figure 5
Month-to-Month Change in Business Forms Sales



Note: Month-to-month change is from same month of the prior year.

Source: IBFI Monthly
Confidential Sales Index Report

Capacity Rates and Order Backlog

The median capacity utilization rate for forms manufacturers was 61.4 percent in the second quarter of 1991, up slightly from the 60.0 percent rate in the first quarter of the year. **As shown in Figure 6, operating rates for the forms industry peaked in the third quarter of 1990, which coincided with the onset of the 1990-91 economic recession.**

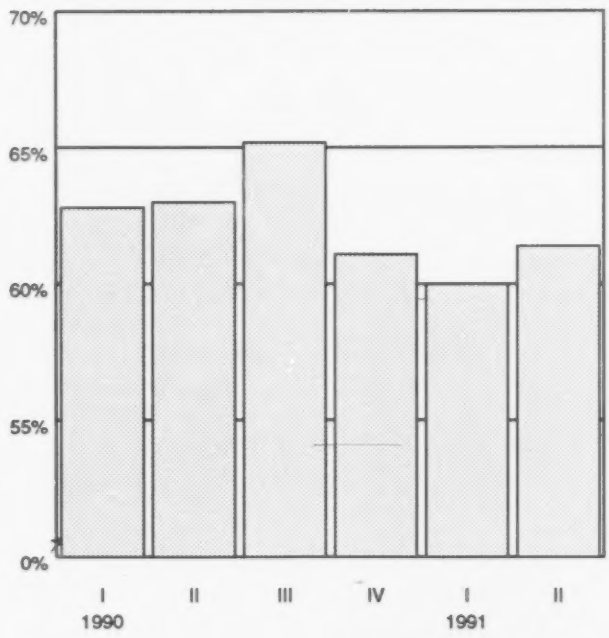
Figure 7 provides median capacity utilization rates for various company sizes, based on approximately 45 IBFI member companies (with 100 forms manufacturing plants) participating in IBFI's quarterly Business Conditions Survey.

Order backlogs for forms companies hovered around 2.1 weeks throughout 1990, according to data collected from participants in the Business Conditions Survey. For the first half of 1991, order backlogs averaged 2.0 weeks, compared to an average backlog of 2.15 weeks in 1990, 2.1 weeks in 1989 and 2.6 weeks in 1988.

A closer look at order backlog figures demonstrates the extent to which forms companies are coping with their customers' requirements for faster response times. Specifically, for those companies whose primary product line (i.e., accounts for at least 60 percent of their sales volume) is custom continuous, order backlogs averaged just 1.6 weeks in the first half of 1991 and 1.9 weeks in the first half of 1990—as shown in **Figure 8**. For these companies, order backlogs averaged 1.9 weeks in 1989 and 2.6 weeks in 1988.

Further evidence of the heightened level of industry competition is provided by **Figure 9**, which shows order backlogs for custom continuous forms producers for 1988 through 1991. Backlogs declined by one full week for customer continuous forms manufacturers participating in this survey, reflecting the industry's move toward faster turnaround times.

Figure 6
Forms Industry Capacity Utilization



Source: IBFI Quarterly *Business Conditions Survey*

Figure 7
Median Capacity Utilization by Company Size
1990 - 1991

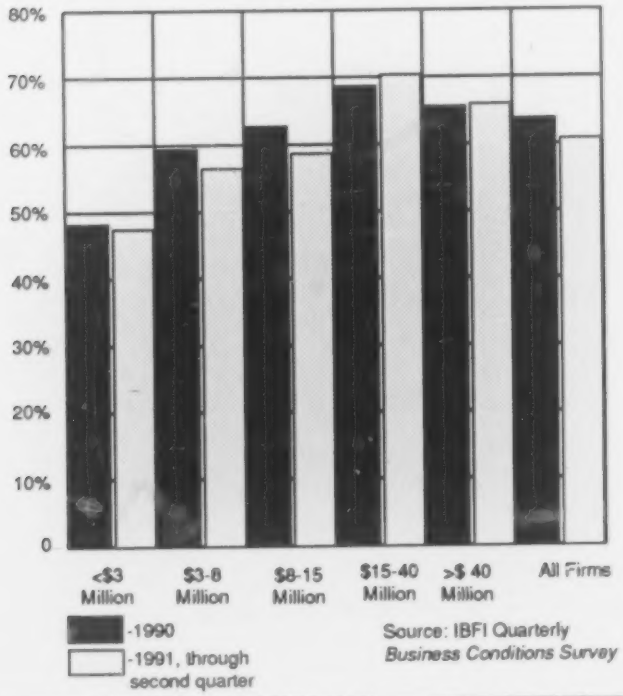


Figure 8
Business Forms Order Backlog
1990 - 1991

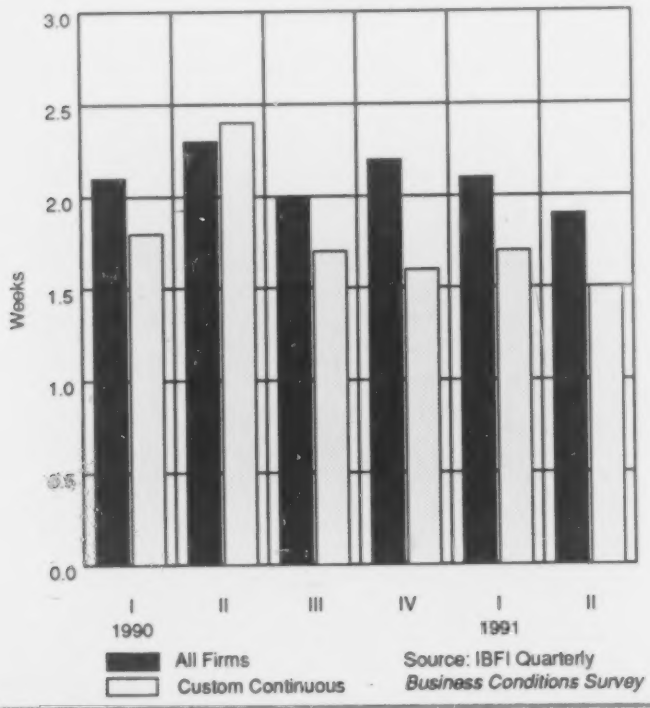
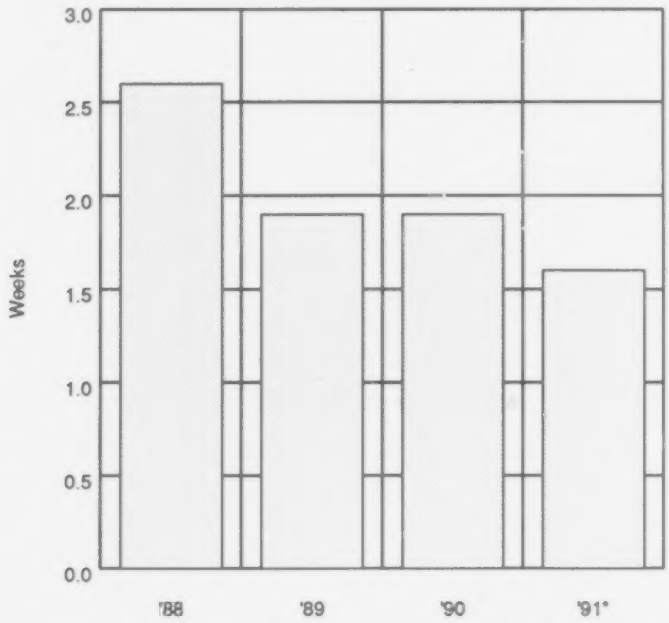


Figure 9
Order Backlog: Custom Continuous
1988-1991



*Through June 1991

Source: IBFI Quarterly *Business Conditions Survey*

Paper Inventories and Delivery

For business forms manufacturers to compete in an environment in which order backlogs are slim and customer service requirements are increasing, the skillful management of raw material inventories is a necessity.

Table 1 tracks recent trends in the number of days required for delivery of paper. As shown, the days required for delivery of paper have decreased by 35 percent from 1988 to 1991, falling from an average delivery period of 29 days in 1988 to 19 days during the first half of 1991. Clearly, the biggest factor contributing to this decline is the soft pricing conditions for forms bond during the first 8 months of 1991: when paper making capacity is tight (and forms bond prices are firm), forms companies will accept longer delivery periods than when paper-making capacity is plentiful and paper prices are soft.

Table 1
Average Number of Days Required for Paper Delivery

Year	Days
1988	29.0
1989	21.8
1990	21.3
1991*	19.0

*Through second quarter

Source: IBFI Quarterly *Business Conditions Survey*

By comparison, IBFI data shows little change in recent years in the number of working weeks of paper inventory kept by business forms manufacturers. This number has held constant at 4 weeks since 1988, according to the IBFI Quarterly *Business Conditions Survey*.

U.S. Business Forms Forecast: 1991 to 1995

Technology is the driving force in today's world economy. This reality requires competitors in virtually every industry to monitor relevant technology trends and their customer's understanding and application of these technologies.

Competitors must also understand the patterns of technology development and implementation in today's economy. The pattern is usually one of gradual, incremental development for a long period of time, followed by a sudden shift in economic or market factors that produces one of two results: either obsolescence of the technology or enormous growth in its application in a very short period of time.

The fax machine is the perfect example of a technology that was slowly developed and refined for decades; then, in the mid-1980s, a confluence of factors (e.g., advances in miniaturization, the acceptance by business people that "time" can be a source of competitive advantage) resulted in skyrocketing growth in applications of fax technology. Within two years, fax machines had become as much a part of the office as the telephone or photocopier.

Laser printing technology has followed a similar pattern of development. Once the price of desktop laser printers dropped to below $1,000, placements of these devices in the general office environment soared. The market for office papers was transformed: demand for cutsheet papers boomed, while demand for continuous forms eroded with startling speed.

Other technologies to watch are color non-impact printing technology, electronic data interchange and electronic forms. None of these technologies or applications has yet to reach the "critical mass" required before the explosive growth stage occurs. Indeed, it is not certain that explosive growth will ever occur for any of these technologies.

The key technology assumptions behind the *Perspective 91* forecast of business forms growth are as follows:

- The displacement of continuous forms demand resulting from the conversion of continuous forms applications to cutsheet applications will remain the dominant forms-related trend in the office papers market through 1995.

- The impact of electronic data interchange and electronic forms on the office papers market will not significantly reduce the demand for business forms below current levels for several years to come. By 1993 or 1994, however, the impact of these technologies and applications will be more clearly understood.

In addition to technology, the future of the business forms industry will be determined by the level of growth in the overall U.S. economy. At present, all signs point to a sustained period of low growth for the U.S. economy over the next 3 to 4 years, with real GNP growth averaging about 2.0 percent per year.

Under these economic conditions, the demand for traditional business forms products--stock and custom continuous forms, unit sets, salesbooks and pegboard accounting systems--will likely be slightly below overall GNP growth.

Growth in the sale of non-traditional forms products by forms producers–such as pre-printed cutsheets, pressure-sensitive label products, including label-form combinations, and promotional printing–will be in the 5 to 10 percent annual growth range. However, IBFI estimates that these non-traditional products currently account for no more than 15 percent of total sales by U.S. forms manufacturers. By 1995, this percentage should increase to at least 20 percent of total sales by forms manufacturers.

Tables 2 and **3** present the IBFI forecast for the growth of major products produced by U.S. forms manufacturers through 1995.

Table 2
Shipments of Business Forms and Related Products by U.S. Forms Manufacturers

In millions of 1990 dollars at shipment values
1990 to 1995

Product	1990	1991*	1992*	1993*	1994*	1995*
Business Forms						
Custom Continuous	$3,840	$3,925	$4,033	$4,150	$ 4,253	$4,367
Stock Continuous	1,973	1,856	1,899	1,946	1,987	2,027
Unit Sets	1,798	1,723	1,693	1,671	1,644	1,621
Salesbooks and Pegboard	373	379	390	402	413	425
Total Business Forms:	7,984	7,883	8,015	8,169	8,297	8,440
Related Products						
Pre-printed Cutsheets	675	745	830	935	1,030	1,120
Pressure Sensitive Labels	525	560	605	655	710	765
Total Business Forms and Related Products:	9,184	9,188	9,450	9,759	10,037	10,325

*Forecast

Source: IBFI

Table 3
Shipments of Business Forms and Related Products by U.S. Forms Manufacturers

Year-to-Year Percent Change at Shipment Values
1991 to 1995

Product	1990-91	1991-92	1992-93	1993-94	1994-95	Average 1991-1995
Business Forms						
Custom Continuous	2.2%	2.8%	2.9%	2.5%	2.7%	2.6%
Stock Continuous	-5.9	2.3	2.5	2.1	2.0	0.6
Unit Sets	-4.2	-1.7	-1.3	-1.6	-1.4	-2.0
Salesbooks and Pegboard	1.6	2.9	3.1	2.7	2.9	2.6
Total Business Forms:	-1.3	1.7	1.9	1.6	1.7	1.1
Related Products						
Pre-printed Cutsheets	10.4	11.4	12.7	10.2	8.7	10.7
Pressure Sensitive Labels	6.7	8.0	8.3	8.4	7.7	7.8
Total Business Forms and Related Products:	0.0	2.9	3.3	2.8	2.9	2.4

Source: IBFI

THE EVOLUTION OF THE FORMS INDUSTRY

The business forms industry is over 100 years old, its origins dating back to the use of salesbooks and "one-write" systems in the post-Civil War era. Despite this lustrous past, however, the modern forms industry is about 30 years old—its roots intertwined with the growth of office computing.

The industry's years of fastest growth and highest profitability were probably from 1960 to 1985. This 25-year period began with the mainframe sitting in its own room as the emblem of office computing—and ended with the personal computer and desktop laser printer sitting on the corner of a desk. For most forms companies, the key to their success during this period was their ability to expand fast enough to meet the ever-increasing demand for their products. Profound changes in the computer industry during the 1980s, combined with the maturing of the traditional business forms product lines, have rendered this strategy obsolete. Now, the keys to success for forms companies are their selectivity of markets, speed of implementation and flexibility of operations.

The emergence of the short-run business forms market in 1982-83 was the direct result of the personal computer. Following its introduction to the general office environment by IBM in 1981, the personal computer opened up new markets and product opportunities for paper converters—including forms manufacturers.

Today, the short-run market comprises the fastest growing segment of the U.S. forms business. This market (defined as including orders of 10,000 forms or less, regardless of the number of parts) was estimated to have annual sales of $1.6 billion in a 1986 IBFI FormsMark study. By 1990, the short-run market had grown in size to over $2 billion in annual sales.

The emergence of this market during the 1980s is an example of the "creative destruction" that accounts for much of the vitality of the U.S. economy. For, just as the short-run market created new opportunities and niches for companies to fill, it also destroyed some of the traditional markets and distribution channels that other forms companies had enjoyed in previous years.

Other developments in office automation technology have also had a dramatic impact on the forms market, creating product and market niche opportunities while also eroding or destroying traditional markets. Of course, laser printing technology has had an enormous impact on the forms market since it was introduced to the general office environment in 1977, when Xerox introduced its 9700 high-speed cutsheet laser printer.

Since then, Xerox and its competitors (e.g., IBM, Hewlett-Packard, Kodak and Siemens) have introduced a variety of laser and other non-impact printing devices aimed squarely at segments of the business forms market. The net effect of these introductions has been to divert demand for business forms (and forms-related) applications **away** from continuous computer paper (either stock or custom) in favor of cutsheet paper (either plain or pre-printed).

Changing of the Guard in the Computer Indusry

These developments in laser printing technology did not occur in isolation, of course. **The 1980s saw enormous changes also occurring in the power structure of the overall computer industry.**

For example, ten years ago IBM dominated the computer industry both in terms of market share and profitability. This was largely due to the company's prowess in manufacturing, selling and servicing its own computer hardware. Now, ten years later, IBM is experiencing its least profitable year since 1977 and is undergoing the painful process of down-sizing and restructuring its workforce to compete in the marketplace of the 1990s.

Contrast IBM's trajectory since 1981 with that of another company—Microsoft. In 1981, Microsoft was a privately-held, start-up software concern that had recently licensed the rights to its MS-DOS operating system to IBM for use in the IBM Personal Computer.

Since signing the deal with IBM, Microsoft has gone on to become the dominant player in the personal computer industry—so much so that the Federal Trade Commission is investigating it on the grounds of anticompetitive activity and IBM has forged an alliance with Apple Computer in an effort to block Microsoft's efforts. Ever since its fateful deal with Microsoft, IBM has struggled to cope with the enormous pace of changes occurring in the computer industry. One of its problems has been its management-by-committee structure, which discourages boldness of vision at the top of the organization; another drag has been the company's huge imbedded investment in people, plants and equipment.

On the other hand, Microsoft's biggest capital investment is in the personal computers that its programmers use. Its administrative staff is exceptionally lean for a company of its size. And the organization has only one strategic planner–its CEO, Bill Gates.

The 1991 financial results for these companies illustrate the importance of being able to change with the direction of the market. On $65 billion of revenue, IBM's net profit margin is estimated to be 4.2 percent by the Value Line Investment Survey; on revenue of $1.8 billion, Microsoft's net profit margin for 1991 is 25.1 percent!

What lessons, if any, can forms manufacturers learn from the above comparison of these two giants of the computer industry? Simply this: **In the world economy of the 1990s and beyond, the most profitable companies will be those whose decisions about markets and products are driven not by their capital investments but by their ability to respond with lightning speed to the changes unfolding in the markets they serve.**

Profile of an Industry in Transition

An IBFI member survey conducted in 1991 provides a fascinating snap-shot of an industry in transition. It shows that the forms industry is evolving from one whose orientation has been manufacturing and the expansion of production capacity to meet demand to one whose orientation is becoming technology- and marketing-oriented, with production capacity customized to meet the specific demands of a particular market niche.

A total of 95 North American forms manufacturers—all members of IBFI—completed the survey, which, among other objectives, focused on:

- the definition of the current forms marketplace in terms of product mix, channels of distribution, and customer requirements; and
- an assessment of what the forms market will look like in 1993 as a result of changes in each of these areas.

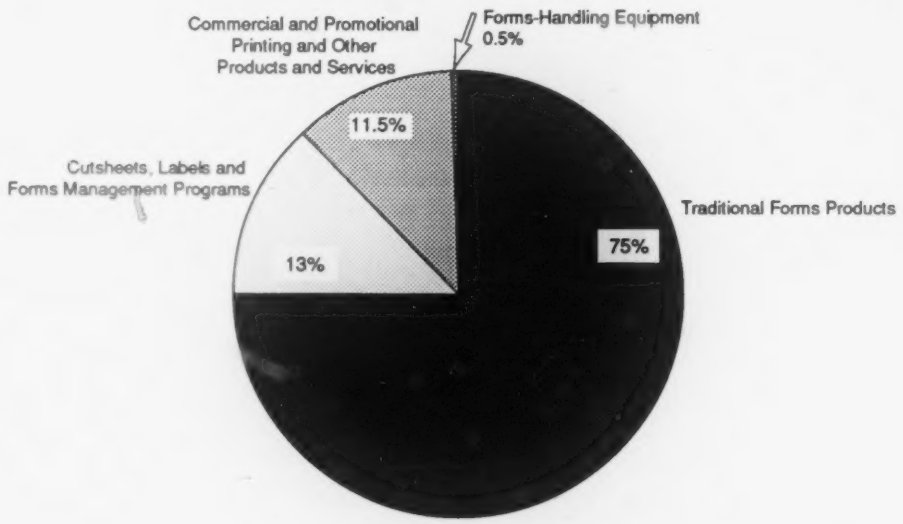
Defining the Marketplace

Most respondents characterized today's business forms company as one that manufactures and sells traditional business forms products and services, claiming 75 percent of their annual sales in traditional products—mainly, stock and custom continuous and unit set forms. A quarter of the respondents felt that today's forms manufacturer is one that manufactures and sells high value-added products, while just three percent defined today's forms manufacturer by the sale or development of electronic forms or software products.

It is clear that today's forms manufacturer believes that non-traditional products are becoming increasingly important. Non-traditional products—pre-printed cutsheets, labels, forms management programs, commercial printing and promotional printing—represented nearly 25 percent of the survey respondents' total annual sales volume for 1990. See **Figure 10**.

Figure 10
IBFI Member Estimate of Current Product Mix

Survey Question: *What percent of your firm's total annual sales do the following represent?*



Source: 1991 IBFI North American Member Survey; 95 responses.

Respondents were asked how the current role of a forms manufacturer will change by 1993. One half of the survey respondents agreed strongly that the forms producer in 1993 will best be defined as a firm that focuses on high value-added products. In addition, 18 percent of the respondents felt that by 1993 form producers would be involved in the development and sale of electronic forms and software services.

Changes in Product Mix

This trend toward a reliance on non-traditional and high value-added products is indicated as well by respondents' comments about changes in the forms product mix for a comparative period covering 1988-1992. Respondents predicted that, during this four-year period, the proportion of custom continuous products will remain at a constant percentage—42-45 percent—while unit sets, pegboard and salesbooks will drop by 10 percent and non-traditional elements will increase their share of the product mix. See **Table 4**.

Pre-printed cutsheets, which accounted for 2.3 percent of the 1988 product mix, are expected to occupy 6.3 percent of the 1992 mix. Similarly, direct mail products—accounting for 1.6 percent of the product mix in 1988—will grow to 3.5 percent of the 1992 product mix, according to respondents' estimates.

Trends in Partnering and Distribution

With the increased focus on value-added products, respondents have cited two interrelated trends: First, they anticipate a decided challenge from other sectors of the printing and business communications spectrum such as electronic forms designers and firms involved in the development of EDI standards. Second, they display a pronounced willingness to establish working agreements and partnering arrangements with many of these competitors as a means of serving a broader segment of the end-user marketplace.

Table 4
IBFI Member Estimate of Product Mix Changes
1988 to 1992

Question: *Please estimate (by percent of annual sales) your product mix for the following years:*

Product	1988	1990	1992
Custom Continuous	43.2%	45.0%	42.2%
Stock Continuous	7.0	6.5	6.1
Unit Sets	31.0	26.0	21.0
Pegboard/One-Write	2.5	1.2	1.7
Salesbooks	1.0	0.8	0.6
Pre-Printed Cutsheets	2.3	4.0	6.3
Mailers	1.7	1.5	1.7
Direct Mail	1.6	2.7	3.8
Commercial Printing (Other than Direct Mail)	2.2	2.6	3.5
Pressure Sensitive Labels	0.9	1.7	2.7
Forms Management Services	0.8	1.2	2.1
Other Products	5.8	6.8	8.3
	100.0%	100.0%	100.0%

Source: 1991 IBFI North American Member Survey; 95 Responses

Table 5
IBFI Member Estimate of Distribution Channel Mix
Direct and Indirect

Question: *Please indicate by percent the methods that your firm uses to sell its products:*

Mix of Direct-Selling Channels

Direct Sales Force	94.1%
Catalogs	2.5
Telemarketing	1.1
Other Methods	2.3
Total	100.0%

Mix of Indirect-Selling Channels

Distributors	88.7%
Telemarketing	1.9
Computer Stores	1.3
Superstores	0.4
Office Supply Stores	1.5
Other Methods	6.3
Total	100.0%

Source: 1991 IBFI North American Member Survey; 95 Responses

Respondents feel that firms which can provide value-added non-forms products, such as electronic forms design software suppliers or firms involved in the development or integration of EDI standards and systems, are strong competitors to the contemporary forms manufacturer.

While viewing some of these business communication firms as posing a potential threat, **many of the forms producers in the survey have already established partnering arrangements with a variety of firms, or plan to do so by 1993.** For instance 46 percent of the respondents currently have established partnering relationships with paper suppliers. Sixty-two percent of the respondents have established partnering relationships with forms distributors.

Other types of partnering relationships are intriguing. One fourth of the respondents have set up partnering relationships with electronic forms design software suppliers and an additional 16 percent plan to do so by 1993. Seventeen percent of the respondents have established partnering agreements with firms involved in the development or integration of EDI standards and systems and an additional **32 percent** plan to do so by 1993.

Commercial printers and quick printers are identified as firms ideal for partnering relationships by nearly one third of the respondents. There is little enthusiasm for establishing partnering relationships with computer printer manufacturers.

Of the 95 IBFI member companies participating in this survey, the majority (60 percent) sell through indirect distribution channels. (For the forms industry as a whole, however, approximately 35 percent of industry sales volume is sold through indirect channels; the remaining 65 percent of sales volume is sold directly to the end-user.)

Table 5 provides the mix of direct and indirect distribution channels reported by survey respondents. It shows that, despite the chaos and confusion in distribution channels in recent years, the vast majority of forms sold in the U.S. marketplace are sold through two channels: the direct sales force and the independent distributor.

Strategies for Success

What emerges clearly from this member needs analysis is a recognition of end-users' increased demand for more comprehensive information systems solutions and the corresponding need for the forms producer to become more flexible and more responsive in order to satisfy this demand. Changes in end-user requirements will require the industry's major forms manufacturers (such as Moore Business Forms, Standard Register, Reynolds & Reynolds, etc.) to be equipped to supply not only traditional forms products, but also to supply non-traditional products, to provide electronic forms designs or electronic forms management solutions, and to provide electronic data interchange capabilities or data-base management services. For smaller, regionally-based forms companies, these changes will likely force them to choose a market niche (or a series of niches) in which to specialize.

Forms producers believe that to prepare for this changing environment they must expand their range of production beyond traditional products to encompass pre-printed cutsheets, multi-color custom products, electronic forms design and promotional and commercial printing. Beyond that, respondents feel that the forms producers wishing to take a pro-active position in serving this emerging marketplace should focus on new products and services and the development of new customer groups.

PAPER OUTLOOK

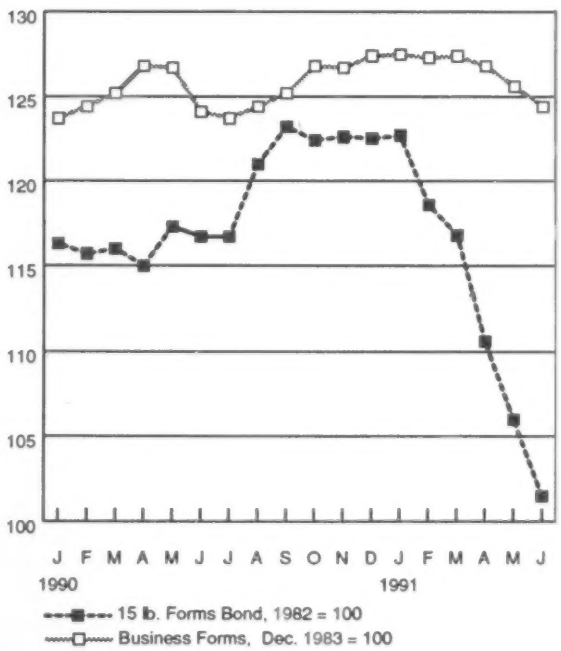
U.S. paper mills spent much of the decade of the 1980s coping with a variety of competitive issues. These issues included such diverse challenges as fluctuating U.S. currency values, increased environmental regulations, upheaval in paper distribution channels, and major changes in end-use markets.

These issues, however, were just a warning for the unprecedented drop in producer prices experienced by paper manufacturers in the first half of 1991.

As shown in Figure 11, the producer price index for 15 lb. forms bond fell by nearly 20 percent during the first six months of the year. The slide in forms bond prices was finally halted in September, when U.S. mills instituted a 12 percent increase in forms bond prices.

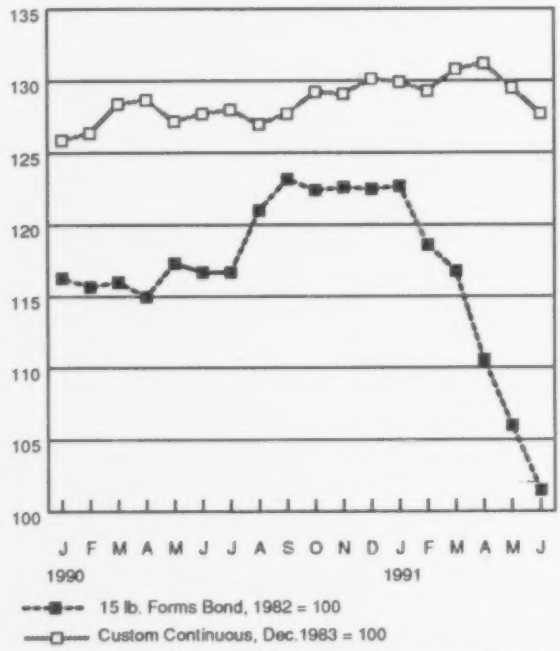
Figures 12 through **15** compare trends in forms bond producer prices vs. producer prices for specific forms product lines.

Figure 11
Producer Price Indices
Forms Bond vs. Business Forms (SIC 2761 P)
January 1990 to June 1991



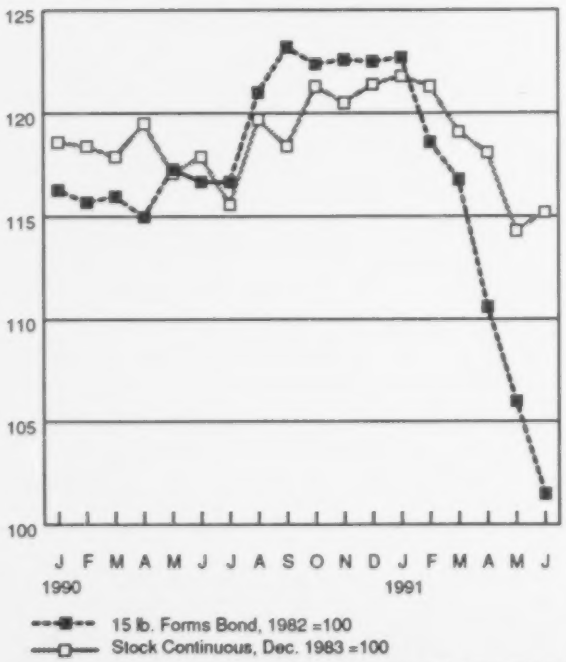
Source: Bureau of Labor Statistics

Figure 12
Producer Price Indices
Forms Bond vs. Custom Continuous Forms
January 1990 to June 1991



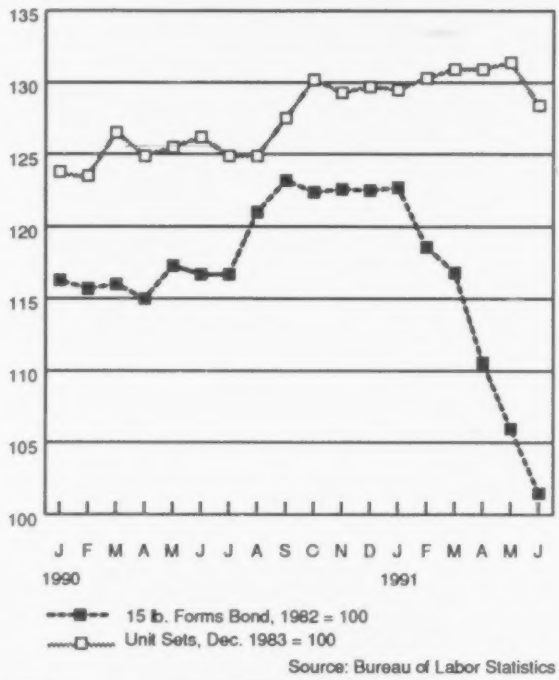
Source: Bureau of Labor Statistics

Figure 13
Producer Price Indices
Forms Bond vs. Stock Continuous Forms
January 1990 to June 1991



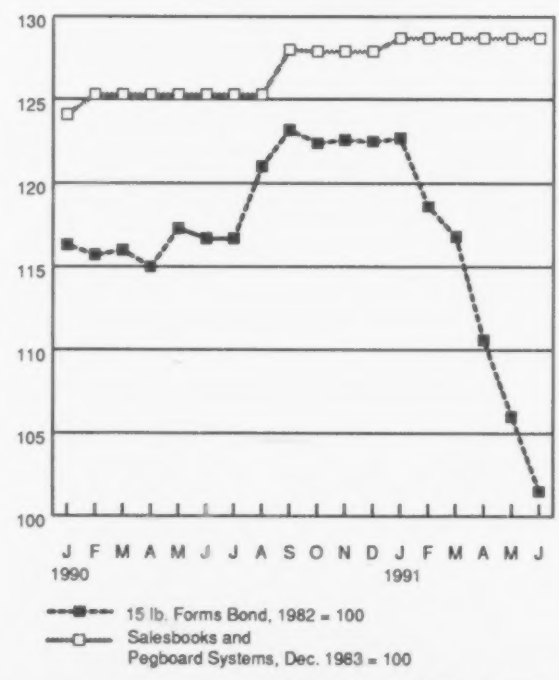
Source: Bureau of Labor Statistics

Figure 14
Producer Price Indices
Forms Bond vs. Unit Sets
January 1990 to June 1991



Source: Bureau of Labor Statistics

Figure 15
Producer Price Indices
Forms Bond vs. Salesbooks and Pegboard Accounting Systems
January 1990 to June 1991



Source: Bureau of Labor Statistics

Paper Mill Capacity

According to the American Paper Institute, uncoated free sheet capacity increased by 4.7 percent in 1991 (compared to the prior year). In 1992 and 1993, uncoated free sheet capacity is projected to increase by 3.0 percent and 2.2 percent, respectively.

It is clear that overcapacity was a major reason for the huge drop in producer prices for U.S. paper mills in 1991. In fact, approximately one million tons of **potential** uncoated free sheet capacity was added to the U.S. market between July 1990 and July 1991. This extra capacity—equal to about 7 percent of total uncoated free sheet capacity in the U.S. market—created tremendous downward pressure on paper prices once the U.S. economy moved into recession in 1990.

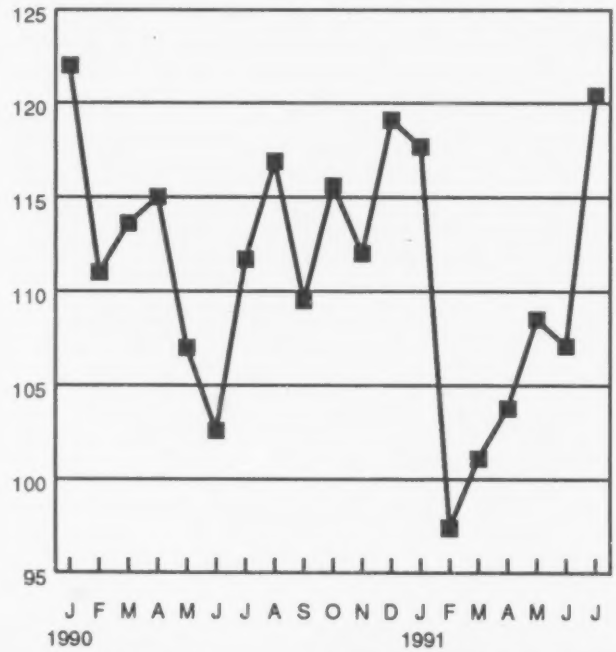
As the U.S. economy begins to expand again and paper industry capacity moves closer to the mid-90 percent range, the outlook for firmer paper prices will improve.

Tons Converted

Figure 16 tracks shipments of computer-type paper (i.e., forms bond, carbonless and uncoated groundwood) by U.S. paper mills to forms manufacturers. The graph shows that this indicator of forms demand slipped dramatically in the middle of 1990 (when the economy slipped into recession) and in the beginning of 1991 (when the Persian Gulf War began, which caused U.S. economic activity to drop off sharply).

Computer-type paper shipments by U.S. paper mills dropped by 2.2 percent during the first seven months of 1991 compared to the same period last year. This decline in shipments closely matches the decline in real GNP during this period. This tight relationship between economic activity and computer-type paper shipments suggests that there is little if any lag between forms demand and overall economic activity in the United States.

Figure 16
Index* of Computer-Type Paper Shipments
(Forms Bond, Carbonless, Uncoated Groundwood)



*May 1984 = 100

Source: American Paper Institute

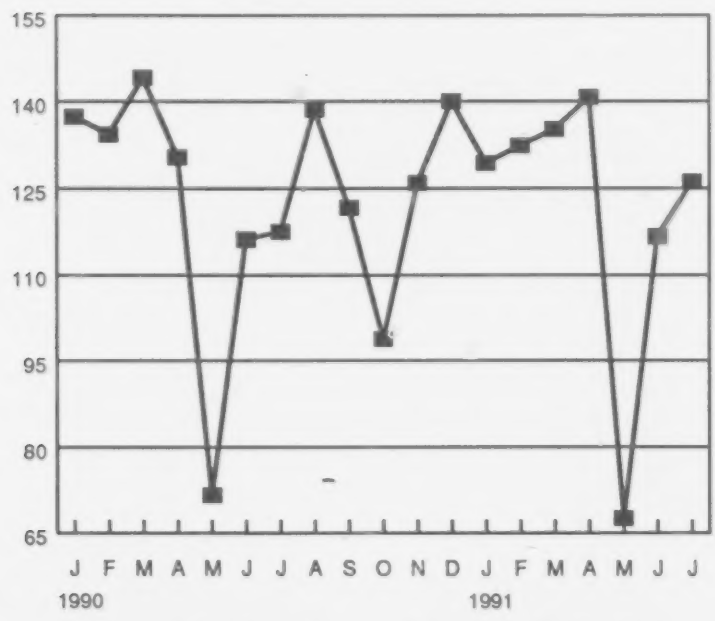
Figure 17 tracks the movement of the IBFI tonnage index. For the first seven months of 1991, tons converted or shipped by U.S. forms producers decreased by 0.4 percent compared to the same period last year. During 1991, there have been wide swings in this measure of industry activity; however, since the middle of the second quarter this indicator has signalled a mildly positive upturn in forms demand.

Paper Industry Structure

Following the acquisition last year of Great Northern Nekoosa by Georgia-Pacific, some industry observers wondered if a wave of consolidation was about to hit the paper industry—just as it hit other mature industries during the 1980s, including banking, airlines, broadcasting and consumer goods. This did not occur. Georgia-Pacific's acquisition is more in line with the trend toward "strategic" acquisitions, wherein one company buys another in order to improve its long-term position in the marketplace–rather than to acquire an asset that can be sold for a profit a few years later. (AT&T's purchase of NCR earlier this year also fits this mold.)

One of the more significant restructuring moves by a paper company during 1991 was Boise-Cascade's decision to exit the carbonless paper market. The company announced plans to sell its only carbonless plant (in Vancouver, Washington) to Appleton Papers, but this sale was blocked by the Federal Trade Commission. Unfortunately for Boise, by the time the FTC made its ruling, Appleton had already acquired most of Boise's carbonless customers, who switched to Appleton in anticipation of the deal being approved. Boise has since converted this mill to the production of recycled paper grades for forms bond and other offset paper markets. Given Boise's decision to reconfigure its Vancouver mill, it seems likely that the most significant changes in the structure of the paper industry over the next 3 to 5 years will occur at the plant level, e.g. the development of smaller, non-integrated mills to produce recycled paper grades.

Figure 17
IBFI Tonnage Index*



*Tons converted or shipped by U.S. forms manufacturers, 1982 = 100

Source: The IBFI Monthly *Confidential Sales Index*

THE U.S. ECONOMIC OUTLOOK

Real GNP Growth

After plummeting by 2.8 percent in the first quarter of 1991, real GNP (based on 1982 prices) declined by 0.5 percent in the second quarter. This means that, since December 1988, the economy has experienced just one quarter in which the economy grew at a rate of 2 percent or better.

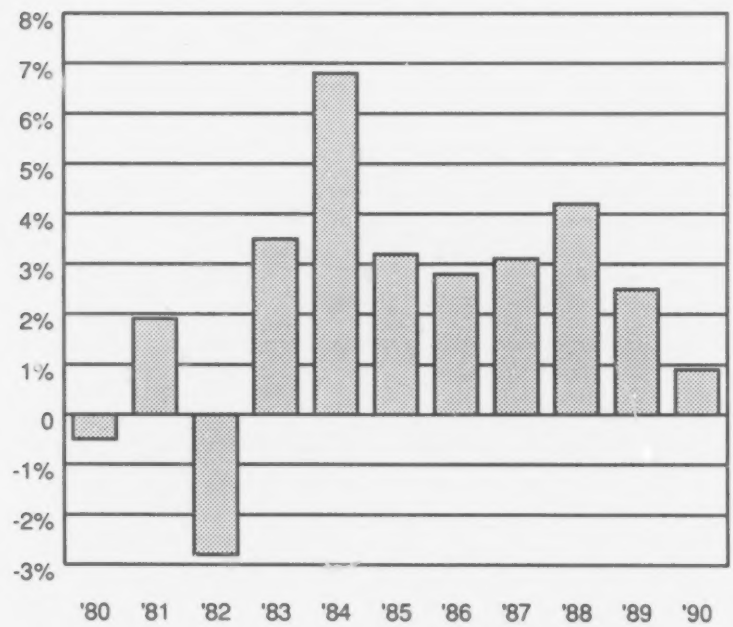
This trend is in sharp contrast to growth that the economy enjoyed from 1983-89, when the economy averaged real GNP growth of 3.8 percent per year. See **Figure 18.**

In July 1991, The Federal Reserve Board forecast that total GNP growth for all of 1991 would be somewhere within the range of 0.25-1.0 percent.

The U.S. Department of Commerce's Index of Leading Indicators showed positive growth in July 1991, the sixth consecutive monthly rise in this statistic. (The Index of Leading Indicators tracks factory orders for durable and non-durable goods, order backlogs, unemployment claims, and other economic indicators that are likely to precede movements in the economy.)

A closer look at 1991 data on factory orders shows that orders for durable goods (e.g., cars, washing machines, etc.) increased an impressive11.2 percent from June to July, while factory orders for non-durable goods (including, of course, business forms) inched up just 1.9 percent in July. These numbers indicate that while some sectors of the economy are rebounding, the transaction-based economy remains at a low ebb

Figure 18
Annual Real GNP Growth of U.S. Economy
1980 to 1990



Source: Department of Commerce

–thanks to extremely low levels of consumer confidence. The consumer's level of confidence in the economy (as reported by The Conference Board, a research group in New York) has dropped steadily from March 1991 through August 1991, as euphoria over the Persian Gulf War gave way to pessimism about the prospects for the economy.

Historically, the usefulness of the index of leading indicators or the level of consumer confidence in predicting the course of the economy has long been open to question; a change in these indicators by no means automatically results in a similar change in the direction of the overall economy. However, they remain useful measures that should be factored into any overall analysis of the state of the economy.

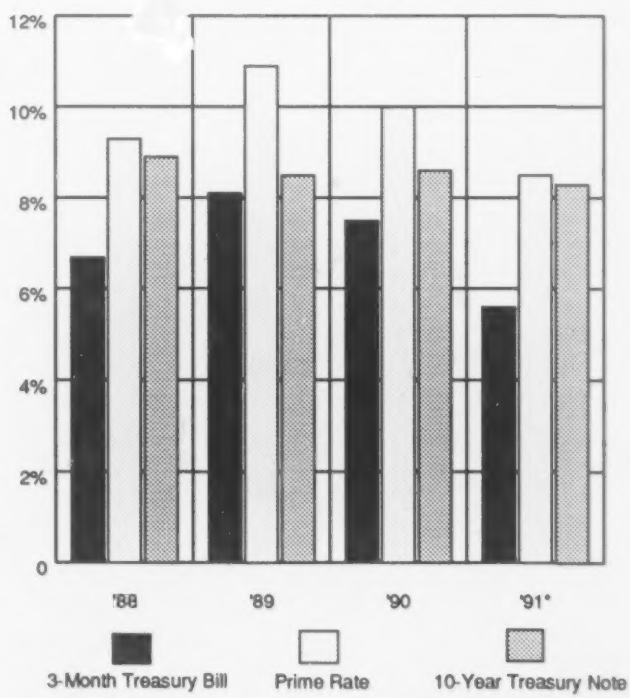
Interest Rates and Inflation

Between July 1990 and July 1991, short-term interest rates fell by over 200 basis points, from 7.7 percent in July 1990 to 5.6 percent in July 1991. The source of this drop in short-term rates was twofold: (1) the 1990-91 recession and the accompanying credit crunch (resulting partially from the S & L bailout by Congress) severely curtailed demand for loans, both from consumers and businesses; and (2) The Federal Reserve Board has aggressively increased the money supply in an effort to stimulate the economy and lessen the severity of the recession.

As shown in **Figure 19**, the prime interest rate also fell after the beginning of the recession, dropping from 10.0 percent in July 1990 to 8.5 percent in July 1991. Expectations about interest rates and inflation move in tandem, as investors factor inflationary expectations into the yields they demand from invested capital. Although short-term interest rates dropped sharply in 1990 and 1991, long-term rates were much more stubborn; specifically, rates for 10-year Treasury notes dipped from 8.5 percent in July 1990 to 8.3 percent in July 1991—a decline of just 20 basis points.

Inflation is the cause of the slim drop in long-term rates. Consumer prices, for example, rose 6.1 percent in 1990, largely due to the spike

Figure 19
Short- and Long-Term Interest Rates



in oil prices that reverberated through the economy in the second half of 1990 following Iraq's invasion of Kuwait. (See **Figure 20**.)

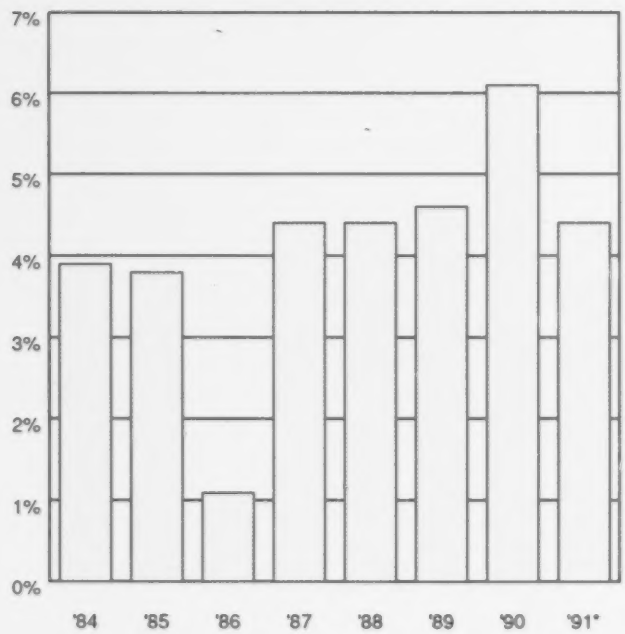
Through July 1991, the Consumer Price Index was 4.7 percent above its July 1990 level. Most businesses and consumers have adopted a ho-hum attitude regarding inflation in the 4-5 percent range. But this attitude was forged during the 1980s, when the economy was growing at a healthy clip and the memories of the double-digit inflation rates of 1979-1980 were still fresh. In the current low-growth environment, a 5 percent inflation rate has the effect of squeezing the economy's growth potential while steadily lowering living standards. Such a persistent level of inflation reflects the growing regulatory burden that more and more businesses must cope with on a daily basis; the process of coping requires these companies to either pass the additional cost onto their customers or reduce their profit margins.

Capacity Utilization and Unemployment

Figure 21 shows the sharp decline in capacity utilization by U.S. manufacturing companies since the onset of the 1990-91 recession; this rate declined from 83.1 percent in July 1990 to 78.4 percent in July 1991. Manufacturing capacity utilization rates for the U.S. economy peaked in 1988, averaging 83.9 percent for the entire year.

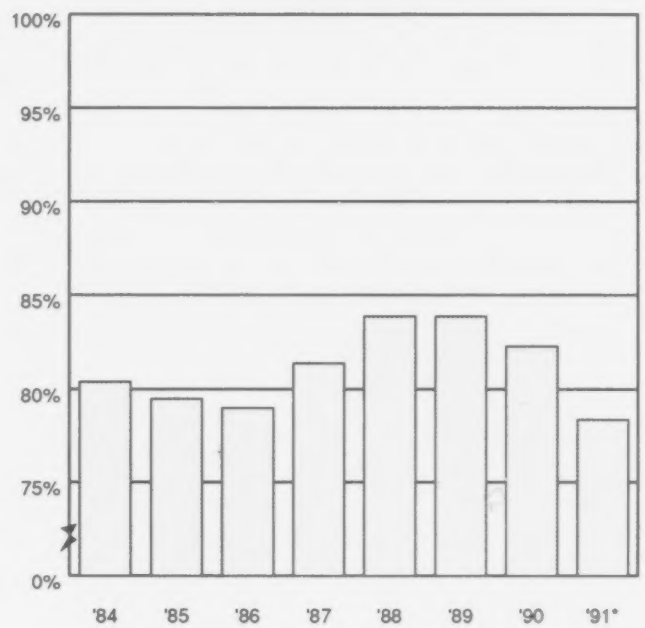
The low point for the decade was 1982, when capacity rates averaged just 72.8 percent. In 1982 the unemployment rate averaged 9.5 percent, compared to an unemployment rate of 6.7 percent through the first half of 1991. These two indicators–capacity utilization and unemployment–confirm that the 1990-91 recession has not been as severe as the 1981-82 recession. This means, therefore, that the 1992 economic recovery is likely to be far less powerful than the economic recovery that began in 1983.

Figure 20
Annual Consumer Price Inflation
1984 to 1991



*Through July 1991 Source: Bureau of Labor Statistics

Figure 21
Capacity Utilization for Manufacturing Sector of U.S. Economy
1984 to 1991



*Through July 1991 Source: Federal Reserve

A closer look at these numbers reveals some startling differences between employment trends during the current recession and those in place during the 1981-82 recession. Specifically, the brunt of job losses in the 1990-91 recession has been felt by white-collar service sector workers rather than blue-collar factory workers. A substantial restructuring and downsizing of the Fortune 1000 workforce is apparently underway.

The 1981-82 recession was an opportunity for companies to clean up their manufacturing operation—reducing employment, streamlining production, and taking other steps to get leaner and more responsive to the marketplace. In the 1990-91 recession, managers realized there simply is not a lot of fat left to cut from factory payrolls; hence, the focus is on reducing white-collar costs. Part of this focus, by necessity, extends to related costs other than salaries and benefits—e.g., travel, office supplies, and business forms.

If recent history is a guide, companies will not revert to their previous spending levels in any of these areas once the economy begins to expand again. Instead, they will continue to search for ways to cut costs in these areas. Forms companies, like other suppliers, will need to integrate this fact of life into their selling strategies in the years to come.

Where is the Economy Heading?

The 1990-91 recession is the ninth to occur since the end of World War II. The previous eight recessions averaged 11 months in duration, but 2 of the last 3 recessions lasted 16 months before a recovery got underway. (See **Table 6**.)

Since 1970, recessions have averaged 13 months in duration; if this average holds true for the 1990-91 recession, then it will come to an end during the third quarter of 1991, probably in August or September. **Table 7** provides IBFI's forecast for U.S. economic growth for 1991 through 1995.

With the 1990-91 recession on the verge of turning into the 1991-92 recovery, the long-term direction of the U.S. economy deserves examining. The key question is this: "Is the current downturn merely a predictable pause in the U.S. economy's long-running expansion that began after World War II, or has the economy reached a critical turning point that will, years hence, mark the line of demarcation between years of economic growth and years of economic stagnation?"

The answer will probably depend on the speed with which the nation's elected leaders agree on the need for an economic stimulus–such as a cut in tax rates on capital gains– that would propel the economy out of the doldrums and into another boom phase. For now, the political stalemate in Washington all but ensures the continuation of a slow-growth economy through at least 1993.

Table 6
Duration of U.S. Recessions
(since 1945)

Recession	Duration (in Months)
Nov.'48 to Oct '49	11
July '53 to May '54	10
Aug. '57 to April '58	8
April '60 to Feb. '61	10
Dec. '69 to Nov. '70	11
Nov. '73 to March '75	16
Jan. '80 to July '80	6
July '81 to Nov. '82	16
July '90 to ?	14...

Source: Wall Street Journal

Table 7
U.S. Economic Forecast
Real GNP Growth
1991 to 1995

Year	Growth Rate
1991	0.25%
1992	2.1
1993	2.6
1994	2.3
1995	2.7

Source: IBFI

COLOR TECHNOLOGY REVIEW

Color is an increasingly important aspect of document creation and reproduction within the forms end-user environment. Information presented in a business document in color is noticed and retained much more readily than a similar document produced in black and white. Thus, it is hardly surprising that the copier manufacturers and computer printer manufacturers have, in the last 12 months, put an increased emphasis on the placement of color copier and color printer devices in the office environment.

Full Color Copiers

In 1991, nearly 615,000 color personal computer (PC) monitors, 700,000 color software programs and more than 12,000 color copiers will be sold. More than a third of the typical color copier users expect their monthly color output volumes to surpass 20,000 sheets.

Full color copier technology at present does <u>not</u> compete directly with forms manufacturers' ability to produce high-quality multiple color and pre-printed cutsheet products. Often, the forms producer may supply the master sheet from which the end-user makes multiple color copies.

However, color copiers—especially the new generation of electrophotographic digital color copiers—do offer an on-demand reproduction alternative for the end-user. The highly advanced digital laser color technology offers the user a link to other information output devices in the office, such as PCs and video display terminals.

The technology for producing full color copies of multi-color originals in a single pass has existed since 1969 when 3M Company introduced its full color copying device. Xerox joined in the full color copier market with its 6500 color copier in 1974. Canon USA introduced its NP Color Copier in the late 1970s.

The color copier market has been slow to develop because these copiers have been both costly and slow. In the past few years, however, the copier industry has witnessed a resurgence of interest in color. A major impetus has been the advent of cartridge-loaded toner and developer. Once vendors began offering supplies in cartridges that an operator could replace with ease, the next logical step was to develop and market interchangeable toner cartridges and color developer units.

Color Copier Technologies

Several technologies are used in full color copiers: photography, thermal transfer and electrophotography. The photographic process uses silver halide to produce color copies on photo-sensitive paper. The copier houses the development chemicals in operator-replaceable supply modules, thereby eliminating the mess associated with handling photographic chemicals. Though the photographic process produces excellent copy quality, it tends to be expensive. Chemical and photographic papers must be replaced frequently and they cost more than toners and developers.

Thermal transfer color copying involves a line sensor digital scanner and a thermal transfer printer. Copies are produced from wax-based ribbons in either three or four colors in addition to black. Resolution level is 400 dots per inch (dpi) but the color output is slow—about three copies per minute—and expensive. Costs can range up to 80 cents per page.

The technology offering the greatest opportunity for speed and connectivity to other devices in the office environment is electrophotography. Xerox Corp. uses an electrophotographic process with three separate dry toner applications in its 1005 color copier. It uses a subtractive color system with filters in red,

blue and green and three primary toner colors of cyan, magenta and yellow in the exposure, imaging and transfer process. Total color reproduction involves all three toners. The full color copying process requires three complete machine cycles—one for each primary color.

Like the Xerox model, the Color Edge copier from Eastman Kodak uses an electrophotographic process and houses three toning stations containing cyan, magenta and yellow toners. At 23 copies per minute, the Color Edge provides the fastest color copy output on the market today.

Digital Color Technology

A key development in the electrophotographic color copier arena is the advance in digital color technology with the Canon Color Laser copier (CLC) 500. The CLC 500 uses an electrophotographic process to generate images on plain paper. The unit houses black toner in addition to cyan, magenta and yellow. Single color copies can be produced in red, blue, green, yellow, cyan, magenta and black.

The new digital image process system, introduced by Canon in mid-1991, reduces the laser beam in the CLC 500 to half the size of previous models. This means original colors can be reproduced with 256 gradations of colors at resolution levels of 400 dpi.

The Canon CLC 500's capability to integrate high quality pictorial images with a variety of intelligent features was added in April of 1991. Digital full-color output from photographic and video equipment, television signals and computers—including desktop PCs and workstations—can be converted into color copies. The new source of connectivity is made possible by a new image processing unit (IPU). The IPU's unique interfacing capacity enables it to act as an electronic translator for both the analog and digital signals of outside sources. By accepting television signals, camcorder and video images, the CLC 500 is capable of producing color hard copies of electronic information instantly, making it an important tool for connectivity in offices.

It can be linked to almost any host platform or operations system through its receptivity to Adobe System's PostScript Interface. Users can change a color on an original to another color on the copy or merge images from two different originals into a single copy.

User Requirements

While the typical small office is clearly not ready yet for the full-color copier, these devices are surfacing in many other environments. Users who require color highlights of text material or the presentation of sophisticated color graphics are likely to use full-color copiers. Some likely markets include in-house reprographic centers where color copiers can be used for preparing direct mail, corporate brochures and small runs of highlighted forms. Unlike offset presses, color copiers do not require the services of a dedicated operator—office personnel can operate them easily.

Digital full-color copier technology is suitable for quick printing shops running low-volume color printing jobs. Many quick print customers ask for a pre-press sample of printing jobs, especially color printing runs. A digital full-color laser copier can be used to prepare full color press samples with less effort and at a lower cost than conventional methods.

A primary market for full-color copiers is advertising and public relations firms; the color copies are suited perfectly for the production of marketing brochures, newsletters and press kit covers.

Digital imaging continues to hold considerable promise for the future of full-color copying because it allows communication with a variety of information output devices.

Knowing they must broaden the application of their products to increase their reach into most offices, color copier vendors have begun to market models classified as dual-function copiers—general convenience black toner-only copiers with full color copying capabilities—such as the Panasonic FP-C1. Color copier vendors believe that users in a general office environment want to purchase an office copier that has color as one of its features, rather than having to purchase two copiers—one monochrome and one color.

Still, some obvious questions persist about the potential growth and size of the full-color copier market. Are users willing to pay the $59,000 price of the Canon CLC 500 to have full-color copying connectivity in the office environment? Users may well have to find additional applications for these copiers such as the production of spot or highlight color business forms to justify such a cost.

Some copier vendors, notably Canon, believe that full-color copying someday will become the norm in every office. Others say that the technology is too specialized for mass appeal. Proponents note that users with specialized color copying needs may be willing to pay for high-quality, full-color copiers, no matter what the price. At the same time, once these machines come down in price and increase their current output range of 2 to 17 pages per minute, end-users may find lots of applications for these full-color copiers in the office. Production of short-run quantities of cutsheet business forms may be one such application.

Desktop Color Technologies

Until now, color printers have been limited to specialty applications such as business presentations or simple proofing tasks. And, despite significant improvements in performance, price and quality, color printing on the desktop continues to be bound by technology. **There are four principal technologies involved in color desktop printing—each with specific advantages but also with a number of limitations for end-users.** These technologies include: liquid ink jet, thermal wax transfer, color laser electrophotography and solid ink jet.

The most popular technology to bring color from a desktop computer to paper is ink jet. Today's available low-end ink jet color printers range in price from about $1,400 to $3,000 and offer a much better quality level than simply putting a color ribbon in a dot matrix printer.

Ink-jet printers use four primary ink colors: cyan, magenta, yellow and black. By super-imposing these colors they can also print a pure red, green and blue. Other colors must be simulated with colored dot patterns through a process known as dithering. Today's low-end color ink-jet printers print at between 120 and 216 dpi. Higher resolutions of 300 to 360 dpi are available in several monochrome ink-jet printers, but have not surfaced in color printing.

A typical color ink-jet page costs between 15 and 30 cents, where typical is defined as 25 percent coverage. That means a full covered page could cost in excess of $1. Typical low-cost ink-jet printers use a serial head approach which means that the printhead shuttles back and forth as the paper advances, much like a typical low-cost dot matrix printer. Since all four colors are applied with each pass of the printhead, color registration—the alignment of the primary colors with respect to each other—is generally quite good. Low-end color ink-jet printers typically print a color page in 1 to 4 minutes, depending on the ink coverage and the image area on the page.

Thermal wax transfer technology dominates the mid-range color printer market, including color printers in the $3,000 to $15,000 price range. Thermal wax transfer printers use an ink transfer roll similar to plastic wrap with a thin layer of wax-based inks applied to one side. This material is sandwiched between a thermal printhead and the paper. The thermal printhead typically has 300 heating elements per inch. As the heating elements are fired with an application of electric current, they heat the transfer roll, melting the wax which is transferred to the paper.

To print color, the transfer roll has three or four repeating panels of primary colors, (plus black with a four pass transfer roll). Printing takes place in three or four passes. Each pass lays down a primary color for the entire image area. This places considerable demand on the paper handling mechanism, which must somehow maintain precise paper control throughout the print process to avoid color shifts and other problems due to misregistration of primary colors. The relatively high cost of this mechanism, plus the cost of a thermal printhead and supporting electronics, makes thermal wax transfer technology inherently more expensive than low-end ink-jet printers.

To most printer users, laser means print quality, reliability, simplicity and low-cost per copy. But color laser printers have yet to penetrate the office market in any significant way. The least expensive model on the market today sells for $30,000 and offers 300 dpi printing at 5 pages per minute on plain paper with reasonable print quality. At the high-end of the market, the Xerox 4850 (introduced September 1991) provides spot color at speeds of up to 50 ppm and sells for about $140,000.

Electrophotography relies on a photoconductive drum or belt which retains an electrostatic charge until exposed to light. The photoconductor attracts toner which is then transferred to paper. Color lasers must repeat this trick four times, once for each primary color for process color applications. This presents some difficult color registration problems along with toner contamination through intermixing of the primary colors.

Minor variations in toner coverage are tolerable in monochrome laser printing. However, in color, those variations translate to color shifts and color quality problems. Even the best color laser copiers require ongoing maintenance for continued good quality performance.

Until some breakthroughs occur, color electrophotography will remain a relatively high-end solution with greatest appeal to customers who need functional color on plain paper—quickly. To the forms industry, this technology may represent a challenge because it has the potential to be used in short-run forms applications.

Phase change ink jet is a relatively new technology which combines many of the benefits of liquid ink jet and thermal wax transfer technologies to produce vivid color on virtually any kind of paper. Phase change ink jet uses special inks which are solid at room temperature. The inks are melted in the printer and maintained as a liquid until they are applied to paper with a special piezo-based ink-jet printhead. On contact with the paper, the ink droplets freeze so quickly that they do not absorb the surface of the paper, as liquid inks do. This results in very vibrant colors, regardless of the absorbance and other characteristics of the paper.

One of the notable developments in this area of color technology was the introduction in June 1991 by Textronix (of Wilsonville, Oregon) of a new color printer, the Phaser Jet PXI, which offers tabloid size 300 dpi color printing for under $10,000.

This new device has the intrinsic advantages of solid ink jet over thermal transfer—plain paper capability, more brilliant color and lower supply costs. It also has PostScript Level 2 capabilities. By offering high quality color and text on plain paper at the speed and cost of a current monochrome laser printer, Textronix hopes that someday this color printer will do for color in the office what the Hewlett Packard LaserJet has done for monochrome laser printing. **If that happens,** such color laser printers will eventually be found in all office environments.

Color Printers in the General Office Environment

Everyone is aware of the arguments for color in business communications. But few outside observers are aware of the thicket of challenges facing the vendors who wish to apply color technology to real-world office environments. **Therefore, it is by no means certain that color printers will become a dominant force in the office environment of the 1990s.**

A speaker at a 1991 conference of computer printer manufacturers asked the members of the audience to raise their hands if they had a color PC monitor on their desk or at their workstation. Of an audience of approximately 200 people, nearly 70% raised their hands. Then he asked how many of them had a color **printer** in their office. Two hands were raised.

The reason for this disparity, of course, is that the technology barriers that must be crossed in order to reproduce color on a cathode-ray tube (CRT) are totally different from those required to produce color on a sheet of paper. Yet, the average office worker has virtually no understanding of this fact.

Imagine, then, the difficulty that color printer manufacturers must face when trying to sell a color printer for the general office environment.

The average end-user is accustomed to buying monochrome printers that are extremely durable and often cost well under $1,000. Color printers on the market generally cost over $2,000 and have very limited duty cycles. In fact, according to Dataquest, Inc., monochrome printers currently enjoy a 40-to-1 price/performance advantage over color printers in today's market.

In addition to the barriers of technology and price, color printer manufacturers must also deal with confusion over color printing standards for these devices. At present, there are two competing standards for these printers. If the experience of the personal computer industry is any guide, a proliferation of operating standards tends to keep consumers confused and, therefore, less likely to buy the product.

The use of color in general business communications is certain to increase in the 90s, if only because companies such as Xerox, Kodak and Hewlett-Packard will be applying more and more of their substantial marketing muscle toward this goal.

The key question for forms manufacturers is what will be the fit between forms applications and the advantages and limitations of color printing technology? The opportunity clearly exists to take advantage of this trend toward color by demonstrating to the end-user cost-effective methods of integrating offset-quality color with non-impact printing technology, both monochrome and color.

APPENDIX A
HISTORICAL STATISTICS

Sales Data, Manifold Business Forms
Millions of Current-Year Dollars At Shipment Values

Year	Unit Sets	Custom Continuous	Stock Continuous	Sales & Other Books	TOTAL
1958	159.6	150.4	18.8	45.2	374.0
1963	265.5	239.4	53.9	39.6	598.4
1967	361.7	391.9	98.0	44.2	895.8
1970	468.4	493.4	185.0	52.3	1,199.1
1971	486.4	518.9	190.0	47.0	1,242.3
1972	547.3	578.2	204.9	51.5	1,381.9
1973	630.2	733.7	282.1	59.8	1,705.8
1974	776.2	966.1	432.2	78.8	2,253.3
1975	781.6	944.9	413.7	78.3	2,218.5
1976	849.1	970.3	521.1	84.8	2,425.3
1977	958.1	981.1	633.9	129.5	2,702.6
1978	1,065.1	1,194.8	680.3	137.9	3,078.1
1979	1,248.7	1,466.9	891.4	154.2	3,761.2
1980	1,323.1	1,657.9	1,031.7	174.1	4,186.8
1981	1,417.2	1,823.7	1,186.5	175.7	4,603.1
1982	1,390.3	1,886.0	1,229.3	184.0	4,689.6
1983	1,250.0	2,020.0	1,305.0	260.0	4,835.0
1984	1,350.0	2,465.0	1,490.0	280.0	5,585.0
1985	1,415.0	2,650.0	1,530.0	295.0	5,890.0
1986	1,470.0	2,820.0	1,515.0	300.0	6,105.0
1987	1,563.0	3,098.0	1,628.0	331.0	6,620.0
1988	1,677.0	3,363.0	1,787.0	372.0	7,199.0
1989	1,782.0	3,621.0	1,940.0	369.0	7,712.0
1990	1,798.0	3,840.0	1,973.0	373.0	7,984.0

Sources: IBFI; Census of Manufacturers, U.S. Census Bureau

APPENDIX B
IBFI ANNUAL RATIO STUDY FINANCIAL INDICATORS*
1981-1990

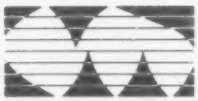
Year	Number of Partic-ipants	Gross Profit Margin			Net Income Before Tax			Return on Investment		
		All Firms	Direct	In-Direct	All Firms	Direct	In-Direct	All Firms	Direct	In-Direct
1981	75	22.7	25.2	19.3	6.4	5.9	6.9	11.0	10.6	10.2
1982	79	22.1	24.3	19.6	5.2	4.6	6.0	8.4	7.6	9.4
1983	60	24.5	28.4	20.8	6.9	6.6	6.8	10.2	9.6	9.3
1984	82	23.4	27.0	20.4	6.3	6.1	6.5	10.1	10.8	9.7
1985	97	25.2	29.2	22.6	4.9	4.7	7.6	9.8	8.5	10.6
1986	90	26.7	29.8	22.3	6.0	5.6	6.9	9.2	9.7	9.6
1987	86	29.5	35.9	22.4	8.3	9.9	6.8	12.2	14.4	9.4
1988	77	26.3	29.7	21.4	6.5	6.4	6.4	9.4	9.9	8.6
1989	75	27.3	31.1	20.5	5.0	5.5	3.8	8.2	9.4	5.8
1990	76	22.7	27.3	20.4	3.4	3.1	3.3	4.4	4.0	4.2

Direct: Firms with at least 60% of sales volume sold through a direct sales force.

Indirect: Firms with at least 60% of sales volume sold through distributors or dealers.

***Note:** The IBFI *Ratio Study* is an annual survey of Income Statement and Balance Sheet information from a sample of North American forms manufacturing IBFI members. The composition of the sample is not 100 percent consistent from year-to-year; readers are cautioned not to extrapolate directly from these results to the entire forms industry.

Source: The IBFI Annual *Ratio Study*



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